1887MNRAS..47..193.

Papers read before the Society from February 1886 to February 1887.

1886.

Mar. 12. Phenomena of the satellites of *Jupiter* and *Saturn*, and occultations of stars by the Moon, observed at Mr. Edward Crossley's Observatory, Bermerside, Halifax, in the year 1885, with the $9\frac{1}{3}$-inch Cooke Refractor. J. Gledhill.

Occultation of *Aldebaran*, 1886, Jan. 16. Professor R. S. Ball.

Occultations observed at Beloit, Wisconsin, in 1884–85. J. Tatlock.

On the orbit of 40 (o^2) *Eridani*. J. E. Gore.

The great shower of Andromedes, 1885. T. W. Backhouse.

Some new red and orange-red stars. Rev. T. E. Espin.

Observation of the conjunction of *Saturn* and μ *Geminorum*. J. Tebbutt.

Additional remarks on the periodic time of α *Centauri*. E. B. Powell.

Occultations of stars by the Moon and phenomena of *Jupiter's* satellites observed at Stonyhurst in the year 1885. Rev. S. J. Perry.

The new star in *Orion*, photometrically and spectroscopically observed at the Oxford University Observatory. Professor C. Pritchard.

Observations of comets *d* 1885 (Fabry), and *e* 1885 (Barnard), made at the Royal Observatory, Greenwich. Communicated by the Astronomer Royal.

Note on some recently published spectroscopic observations. E. W. Maunder.

Observations of the new star in *Andromeda*, made at Mr. Wigglesworth's Observatory with 15·5-inch Cooke Refractor. J. G. Lohse.

April 9. Note on the radiation of meteors. W. F. Denning.

On some suggested improvements in the practical working of M. Loewy's new method of determining the elements of astronomical refraction. David Gill.

On the orbit of α *Centauri*. E. B. Powell.

1887MNRAS..47..193.

April 9. Observations of the phenomena of *Jupiter's* satellites, made at the Adelaide Observatory with the 8-inch Cooke Equatorial in the year 1885. Communicated by C. Todd.

The magnitude of η *Argûs* in March 1886. W. H. Finlay.

On the protuberances visible in the spectrum with a narrow slit. E. L. Trouvelot.

Observations of occultations of the stars by the Moon, 1884–85, and of the IVth satellite of *Jupiter*, 1885, made at the Radcliffe Observatory, Oxford. Communicated by E. J. Stone.

On the semi-diameter of *Venus*. W. G. Thackeray.

The nebulæ in the *Pleiades*. A. A. Common.

Note on the observations for coincidence of the collimators through the cube of the Transit Circle at the Royal Observatory, Greenwich. H. H. Turner.

Observations of Comets *d* 1885 (Fabry), and *e* 1885 (Barnard), made at the Royal Observatory, Greenwich. Communicated by the Astronomer Royal.

May 14. Note on M. Trouvelot's paper on protuberances visible in the spectrum with a narrow slit. E. W. Maunder.

Introduction to a catalogue of the colours of 1730 stars. W. S. Franks.

Observations of the companion of *Sirius* made at the Dearborn Observatory, Chicago. Prof. G. W. Hough.

Jupiter's third satellite in transit, April 11, 1886. W. F. Denning.

Observations of the new star in *Orion*. J. E. Gore.

The meteor shower of Halley's Comet. W. F. Denning.

On the proper motion of twenty-nine telescopic stars. J. L. E. Dreyer.

Note on a remarkable sun spot. B. J. Hopkins.

Observations of Comets *d* 1885 (Fabry), *e* 1885 (Barnard), and *a* 1886 (Brooks), made at the Royal Observatory, Greenwich. Communicated by the Astronomer Royal.

The fourth satellite of *Jupiter* during superior conjunction on the night of April 5, 1886. E. J. Spitta.

Comparisons of certain southern star catalogues. A. M. W. Downing.

June 11. Micrometric observations of Nova *Andromedæ*, made at the Dunsink Observatory. Sir R. S. Ball.

Observations of the satellites of *Saturn* and *Mars*, and of the companion of *Sirius*, made at the U.S. Naval Observatory, Washington. Professor Asaph Hall.

On the orbit of ζ *Sagittarii*. J. E. Gore.

On Delaunay's method of calculating the terms of long period in the motion of the Moon. E. Neison.

1887MNRAS..47..193.

June 11. Observations of Comet Fabry (*d* 1885), made at Grahamstown, Cape of Good Hope. L. A. Eddie.

On Kepler's problem. R. Bryant.

Observations of comet *a* 1886 (Brooks), made at the Royal Observatory, Greenwich. Communicated by the Astronomer Royal.

On the asserted foreshortening of the inner side of the penumbra of spots when near the Sun's limb. Rev. F. Howlett.

On the superiority of zinc and steel pendulums. T. Buckney.

Ephemeris of the satellites of *Saturn*, 1886–87. A. Marth.

The northern hemisphere of *Mars*. N. E. Green.

On a remarkable instance of the detection of distortion in a photographic film, measured for the purpose of stellar parallax. Professor C. Pritchard.

Supplementary measures of the magnitudes of a zone of stars near the equator for reference as standards of magnitude in lieu of *Polaris*. Professor C. Pritchard.

Note with respect to the invention of the achromatic telescope. A. C. Ranyard.

Nov. 12. Observations of the variable star *R Carinæ* from Sept. 1883 to April 1886. J. Tebbutt.

Observations of Comets *d* 1885 (Fabry), *e* 1885 (Barnard), *c* 1886, and I. 1886 (Brooks), made at the Sydney Observatory. Communicated by H. C. Russell.

Observations of Comets 1877, I., II., III., VI.; 1880, III.; 1882, III.; and 1884, III., made at the Dun Echt Observatory with the 15-inch Refractor. Dr. R. Copeland.

Sextant observations of Fabry's Comet. Capt. J. Campbell, and Capt. D. S. Cromarty.

Observation of *Calliope*, made at the Observatory, Düsseldorf. [Extract from a letter to Mr. Stone.] Dr. R. Luther.

Ephemeris of the satellite of *Neptune*, 1886–87. A. Marth.

On the orbit of Σ 1757. J. E. Gore.

A reply to Mr. Neison's strictures on Delaunay's method of determining the planetary perturbations of the Moon. G. W. Hill.

On the orbit of Comet II., 1883, discovered by Mr. Ross. Lieut.-Gen. J. F. Tennant.

On the determination of the Radius Vector in the absolute orbit of the planets. Dr. H. Gyldén.

Observations of the phenomena of *Jupiter's* Satellites made at Windsor, New South Wales, in the year 1886. J. Tebbutt.

1887MNRAS..47..193.

Nov. 12. Newall's occultor. R. S. Newall.
Distribution of Meteor Streams. W. F. Denning.
Note on the star γ *Equulei.* G. Knott.
Reply to certain questions raised before the Royal Astronomical Society at the meeting on 1886, March 12, concerning the matter detailed in a paper entitled "Bright lines in stellar spectra." O. T. Sherman.
Note on Photographs of Stars in *Cygnus*, taken in August 1886. Isaac Roberts.
Note on two photographs of the Nebulæ in the *Pleiades*, taken in October 1886. Isaac Roberts.
Ephemeris for physical observations of *Jupiter*, 1887. A. Marth.
On evidence with respect to the form of the area of the heavens from which the meteors of November 27, 1885, appeared to radiate. A. C. Ranyard.
Observations of Comet *f* 1886 (Barnard), made at the Royal Observatory, Greenwich. Communicated by the Astronomer Royal.
Bands observed in the spectra of sun spots at Stonyhurst Observatory. Rev. A. Cortie.
Observations of Comets made at Mr. Wigglesworth's Observatory with the 15·5-inch Cooke Refractor. J. G. Lohse.

Dec. 10. Formulæ for binary stars. J. E. Gore.
Observations of Comets Winnecke and Finlay, 1886, made with the 11½-inch equatorial and filar micrometer at the Sydney Observatory. Communicated by H. C. Russell.
Ephemeris of the satellites of *Uranus*, 1887. A. Marth.
Second supplement to Sir J. Herschel's general catalogue of nebulæ and clusters of stars. J. L. E. Dreyer.
Note on an erratic meteor. B. J. Hopkins.
On Hartwig's Nova *Andromedæ.* Dr. R. Copeland.
Mr. Sherman's observations of bright lines in stellar spectra. E. W. Maunder.
Observations of Comet *f* 1886 (Barnard), made at the Royal Observatory, Greenwich. Communicated by the Astronomer Royal.

Jan. 14. Spectroscopic observations of the motion of stars in the line of sight made at the Temple Observatory, Rugby. G. M. Seabroke.
On the best device for revolving a dome. D. P. Todd.
Meteors with curved paths. W. F. Denning.
A new variable star in *Puppis.* A. S. Williams.
On the orbit of 14 (*i*) *Orionis* (OΣ 98). J. E. Gore.
Occultation of γ *Virginis*, 1886, Dec. 18. F. C. Penrose.
Photographs of nebulæ in *Orion* and in the *Pleiades*. Isaac Roberts.

1887MNRAS..47..193.

Jan. 14. Note on the electric illumination of the Armagh Refractor. J. L. E. Dreyer.

Occultation of *Aldebaran*, 1887. Jan. 6. Rev. S. J. Johnson.

Observations of Comet *f* 1886 (Barnard), made at the Royal Observatory, Greenwich. Communicated by the Astronomer Royal.

Sextant observations of Comets Fabry and Barnard, 1886. Capt. W. G. Browne and Capt. W. Randall.

On the variability of the spectrum of γ *Cassiopeiæ*. Dr. R. Copeland.

Note on an application of photography to the determination of stellar parallax. Professor C. Pritchard.

Observations of the Moon made at the Radcliffe Observatory, Oxford, during the year 1886, and a comparison of the results with the tabular places from Hansen's Lunar Tables. E. J. Stone.

Mean Right Ascensions of *Polaris*, *Cephei* 51 (Hev.), δ *Ursæ Minoris* and λ *Ursæ Minoris* for the year 1887, from the Radcliffe Observations of the years 1880 to 1886. E. J. Stone.

Spectroscopic results for the motions of stars in the line of sight obtained at the Royal Observatory, Greenwich, in the year 1886. No. X. Communicated by the Astronomer Royal.

Observations of occultations of stars by the Moon, and of phenomena of *Jupiter's* Satellites, made at the Royal Observatory, Greenwich, in the year 1886. Communicated by the Astronomer Royal.